

PHENIX WEEKLY PLANNING

TECHNICAL
SUPPORT
NO. 1



9/8/2011
Don Lynch

This Week

- Station 1 Recapacitation and overhaul at RPC Factory
- Continue MuTr station 2 & 3 N & S capacitor clamps and termination
- Evaluate station 2 N access from station 1 N side
- VTX repairs/upgrades/reassembly continues
- FVTX assembly continues
- RPC1 assembly & QA testing continues at factory
- Continue cable fabrication, electrical support and assembly for RPC1
- Continue gas system tasks
- Reconfigure scaffolding for RPC1 North installation
- Begin RPC1 North Installation

Next Week

TECHNICAL
SUPPORT
NO. 1

- Station 1 Recapacitation and overhaul at RPC Factory continues
- Continue MuTr station 2 & 3 N & S capacitor clamps and termination
- Begin installing terminators and reworking dry air manifolds in station 2 N on station 1 side
- Fabricate parts for Station 2 N access from station 1 side
- VTX repairs/upgrades/reassembly continues
- FVTX assembly continues
- RPC1 assembly & QA testing continues at factory
- Continue cable fabrication, electrical support and assembly for RPC1
- Continue gas system tasks
- Reconfigure scaffolding for RPC1 North installation
- RPC1 North Installation continues

General Tasks

2011 Shutdown

TECHNICAL SUPPORT 2011

- Remaining Work Permits needed
 - End of Shutdown WP 10/1
- IR Crane repairs and upgrade (east done, west later) Done, except west load test
- BBC North & South maintenance Done
- Reinstall BBC North 10/7
- Reinstall BBC South 11/18
- Upgrade AH crane 10/15-11/30
- DC/PC1 East/West troubleshooting as required 10/15-11/15
- Undefined detector subsystem maintenance and repairs 7/25-11/7
- Prep for EC roll in, reinstall MMS lampshade 11/28-12/2
- Roll in EC 12/5
- Prep IR for run 12/5-12/9
- VTX, FVTX and RPC1 Services and QA tests 9/16-11/30
(including 4 new racks)
- Pink/Blue/White sheets 12/12-12/23
- New and upgraded full detector commissioning 9/15-12/31
- Run 12 cooldown 1/1/2012

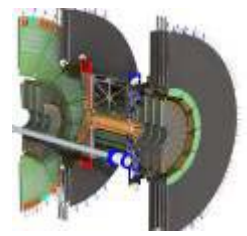
VTX/FVTX Tasks

2011 Shutdown

TECHNICAL SUPPORT ZOO

- VTX E & W in Chemistry Lab. LDTB test in Chem Lab Done
- VTX pixel electronics test to start (4-5 days) Done
- VTX Disassembly into 1/2 barrel layers starts. Done
 - Hirose connector inspect
- FVTX Interconnect cables all available testing in progress
- VTX LDTB spares available Done
- Spiro boards removed ready to ship for repair Done
- Replace Capacitors on all LDTB boards 9/6
- Test ladders with LDTB's 9/9
- 6 FVTX ROCs available 9/12
- Test Strip-pixel readout Chain 9/16
- FVTX, 1st 1/2 cage available. 1/2 cage system test in 9/16
- JPS Meeting 9/16-20
- FVTX 1/2 cage install in VTX @ Chem lab. 1/2 cage + VTX ladder test start 9/19
- Hirose connector fix 8/9-9/23
- VTX spare pixel ladder at BNL. Ladder install starts. Physics lab 9/23
- FVTX Remaining ROC boards at BNL 9/30
- Re-test ladders after pixel barrels re-installed 10/5
- FVTX all 1/2 cages ready 10/21
- VTX+FVTX final installation to start 10/21
- Final VTX+FVTX Survey in Chem Lab 10/24-10/28
- VTX+FVTX ready to move to 1008 10/31
- VTX/FVTX Installation at 1008
 - Build 2 FVTX racks 7/1-9/15
 - Install VTX/FTX, Re-connect VTX services, Install FVTX services, survey and QA tests 10/24-11/11
 - VTX/FVTX Commissioning & Contingency 11/11-12/31
 - Chiller leak/contamination improvements 10/1

FVTX Milestones, Status



ROC Boards

- 6 Boards received at LANL and shipped to assembler
- Anticipated date to receive 6 assembled boards
- Test boards and ship to BNL
- Remaining ROC boards assembled
- Ship remaining boards to BNL and assemble

Aug 19

~~Sept 8~~ **Sept 10**

Sept 10 – Sept 12?

Sept 12 – Sept 23

Sept 28 – Oct ?

Cage Assembly

- Assembly of first $\frac{1}{2}$ cage
 - 7+ half-disks have extension cables attached now
- Test Cage
- **Send first $\frac{1}{2}$ cage to Chemistry**
- Assemble remaining three $\frac{1}{2}$ cages and test
- Send last three $\frac{1}{2}$ cages to Chemistry

present – Sept 16?

week of Sept. 19

present – Oct. 21?

Oct. 21

Dependencies

- When will VTX be ready to receive a cage(s)?
- Will we have space/infrastructure needed for testing after integration into enclosure?



MuTr North Station 1 work

- | | |
|--|----------------------|
| • Install access (Sta. 1 work platforms & CM west side hanging platform) | In progress |
| • Remove 1 section of bridge (1 week) (CAD Techs) | Done |
| • Disconnect Cables, hoses etc, ID/label all (1 week) | Done |
| • Remove FEE plates and chambers (1 week) | FEE Plates Done |
| | Chambers In Progress |
| • Station 2 Maintenance/upgrade through access opened by station 1 removal (3 weeks concurrent with next task) | 9/2/-9/23 |
| • Clean/install new parts and upgrades (MuTr (3 weeks, At RPC Factory) | 9/2/-9/23 concurrent |
| • Re-install chambers and FEE plates (1 week) | 9/26-9/30 |
| • Re-cable, re-hose and test (3 weeks) | 10/3-10/21 |

MuTr North & South Station 2 & 3 Re-cap clamps

(No internal work platforms to upper octants)

- | | |
|---|---------------|
| • CAD Techs to remove MMS east vertical lampshade- | Done |
| • Install new capacitor clamps and terminators in lower octants | (In Progress) |
| | 7/25-12/31 |

RPC Tasks

Remove RPC1 prototype and prototype absorber

Done

Procurement and Assembly at RPC Factory

In Progress

Pre-survey RPC1's at factory

Done

Build 1 new rack, upgrade existing RPC1 prototype rack

7/25-9/12

Install north RPC1 (including north rack & services) (3 weeks)

9/6-9/23

HV Tests, gas system calibration

9/23-10/14

Move Station 1 work platforms to south station 1

10/17-10/28

Install south RPC1 (including south rack) (3 weeks)

10/31-11/11

RPC1 north and south commissioning

RPC3 HV Distribution modifications, gas distribution

9/6-11/30

modifications, PS calibration HV and services testing

TECHNICAL SUPPORT ZONE

Electronics Group Tasks

2011 Shutdown

- RPC1 HV cables & HV boxes & Racks
- RPC3 additional HV boxes
- CMT3 and CMT4 FVTX rack design and assembly for installation on the bridge
- FVTX Bias cable assemblies
 - 48 eight pair #22AWG. 1680 ft total
 - 384 RG-174 cables terminated with CPC and MMCX R/A conns. 1500 ft total
- Purchase and install FVTX LV cables
 - Wedges: 96 eight pair #22AWG terminated in DF11 conns. 3400 ft total
 - ROCs: 24 twelve pair #16AWG terminated in TYCO 2-106527-4 conns. 900ft total
- All FVTX fiberoptics specify, purchase and install
- FVTX LV output mapper boards
- PbSc terminator board production
- MuTr station 1 capacitors
- West carriage ADAM system performance upgrade
- Complete the GL1 6X1 Multiplexer assemblies and test
- LeCroy HV control retrofit testing
- Design/Install FVTX Interlock system.

*cables terminated & ready for installation.
Boxes & racks ready for ass'y
Ass'y in progress
Design in progress*

*Ready to be sent out for bid
Received?*

Received?

Cable is here

*MTP trunk here. Slow Controls fiber and patch bay on order
Finished and installed in boxes ready to be rack mounted
Terminators are here
here
Purchased a couple of Ethernet ADAMs for testing. Now testing a MODBUS server
Layout stage almost complete
Still Waiting for documentation from Debrecen Institute
Paul with some input from Steve and John.
Design and development in progress*

Miscellaneous Gas & Cooling System Tasks

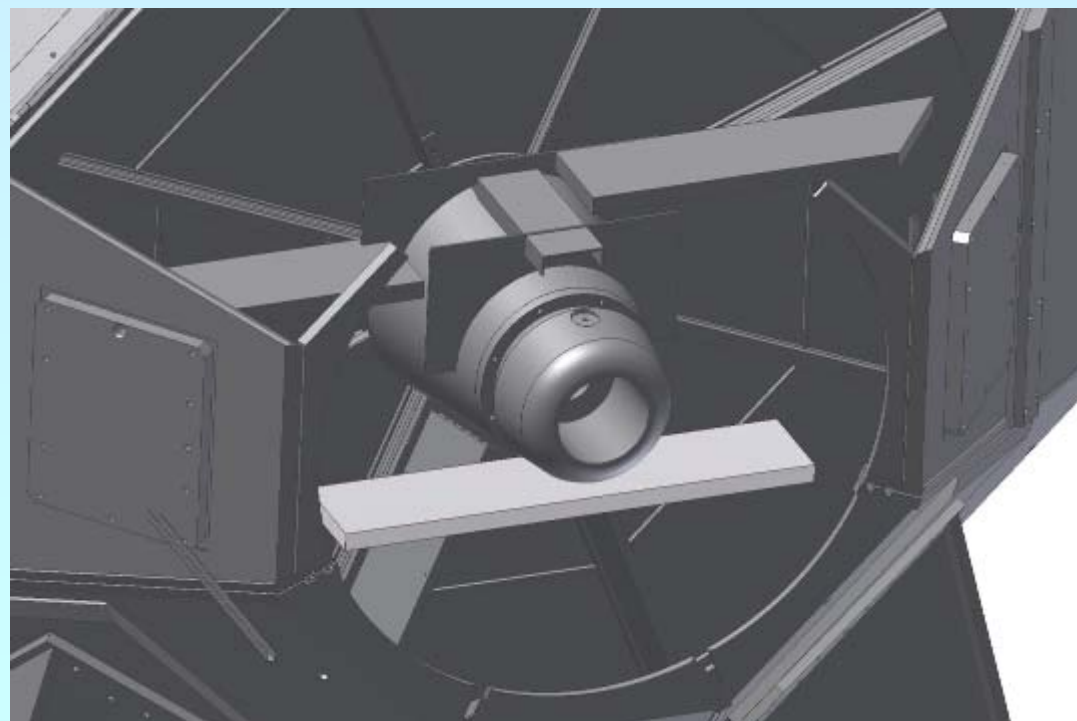
- Insulation for stainless steel lines feeding VTX Done
- Redo bypass line on VTX/FVTX spare chiller to remove kink 7/1-12/31
- Clean VTX/FVTX chiller reservoirs Done
- Move RPC R134A tanks nearer to GMH, install cover, insulated lines 7/1-12/31
- Modify RPC3 tunnel manifolds (north and south) Done
- Replace MuTr flowmeters (north and south) 7/1-12/3

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Station 2 access from
station 1 side
(MMS shown above MMN at left
is similar in concept)

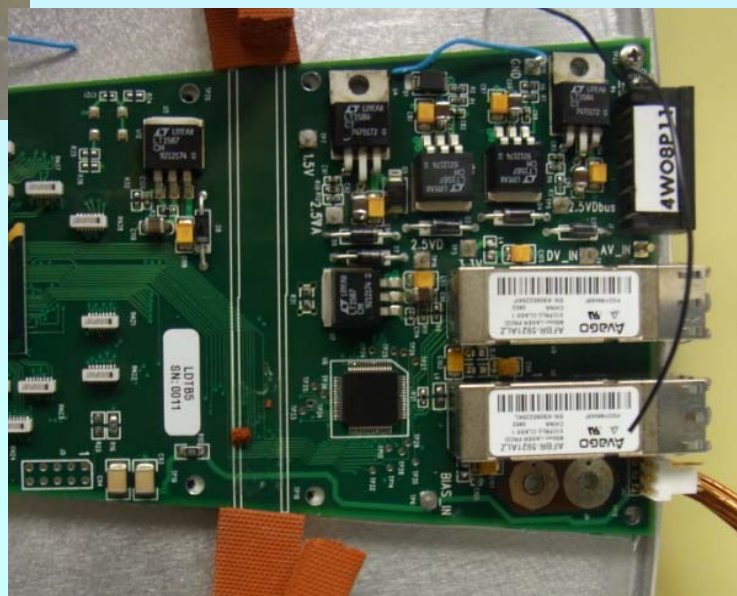
Design of access platforms is in
progress

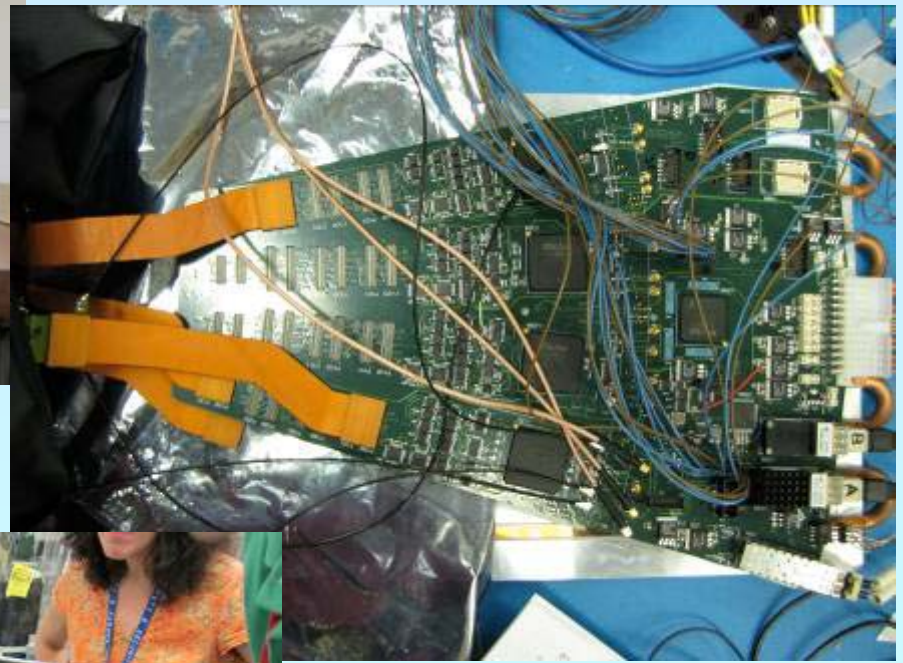






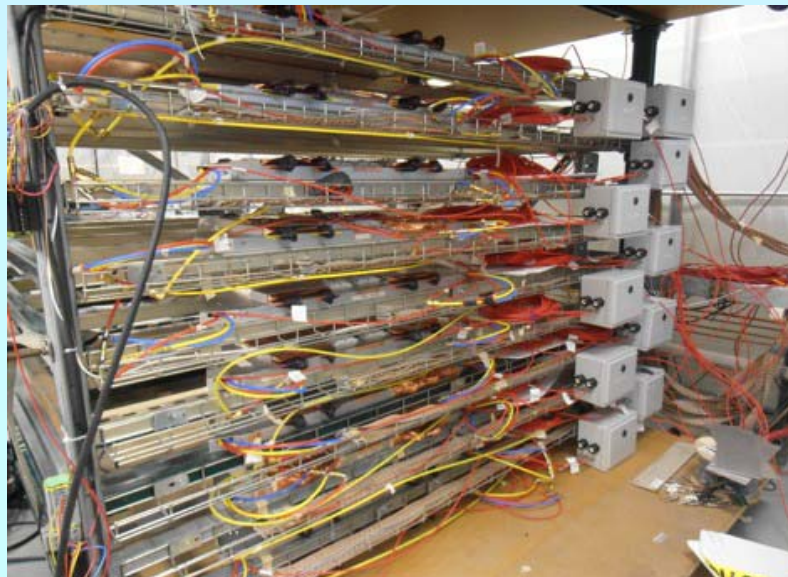
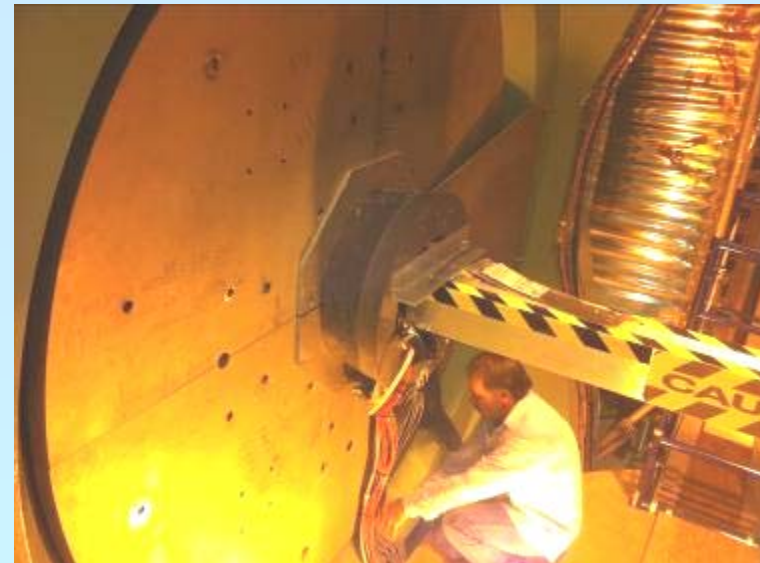
VTX





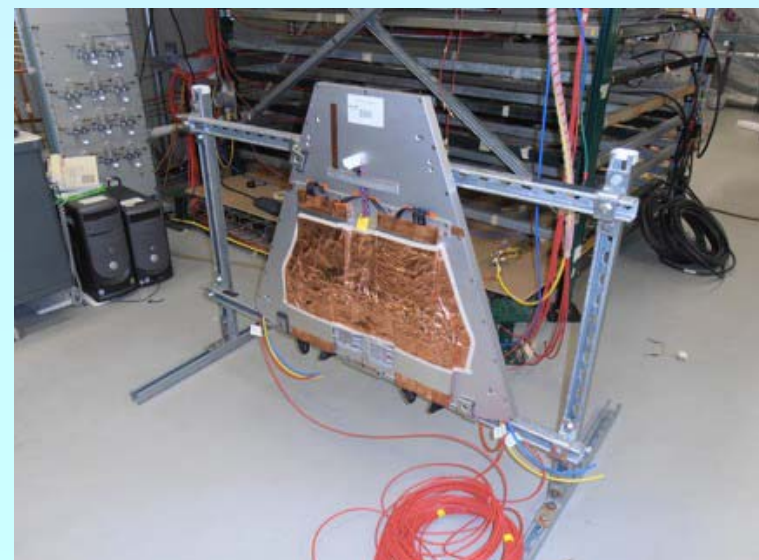
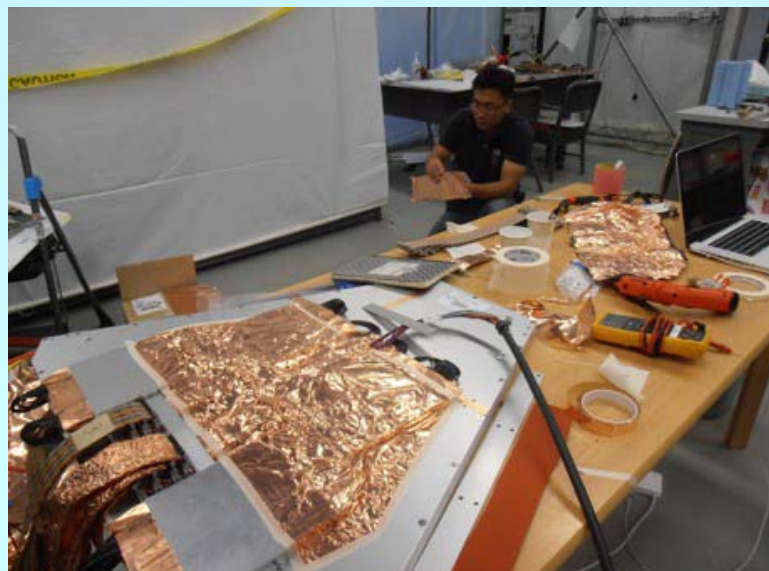
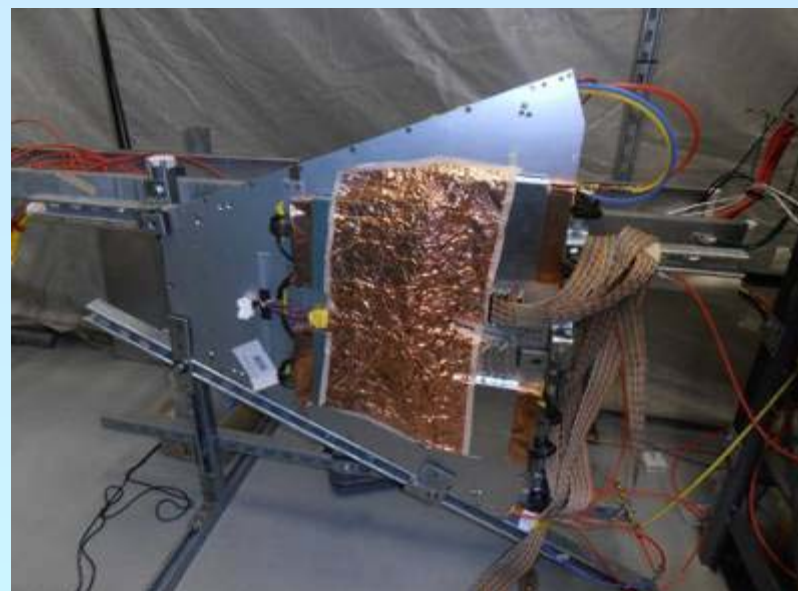
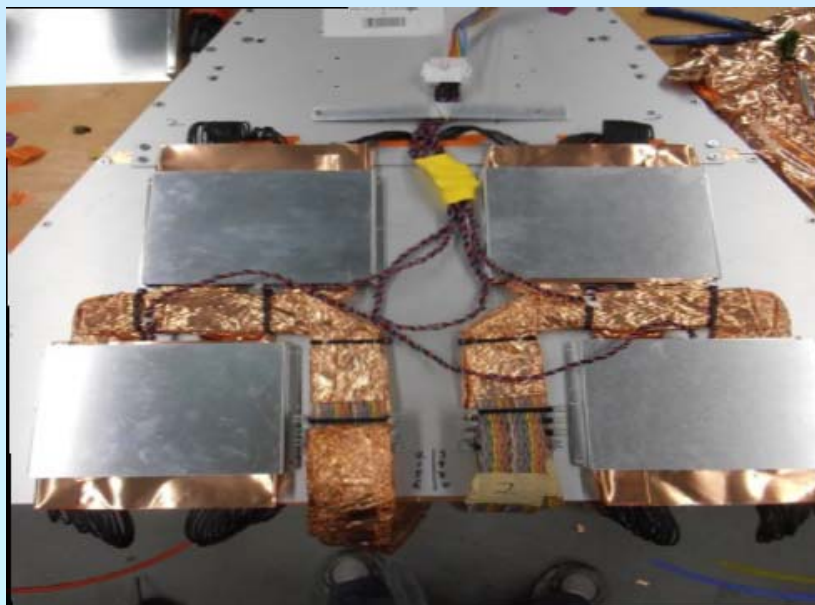
FVTX

TECHNICAL SUPPORT



RPC1

9/8/2011

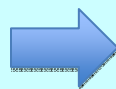


RPC Hodoscope

TECHNICAL SUPPORT



Close to RPC3 electronics rack
Less Beam background region



Location 1 or 2 would be good position

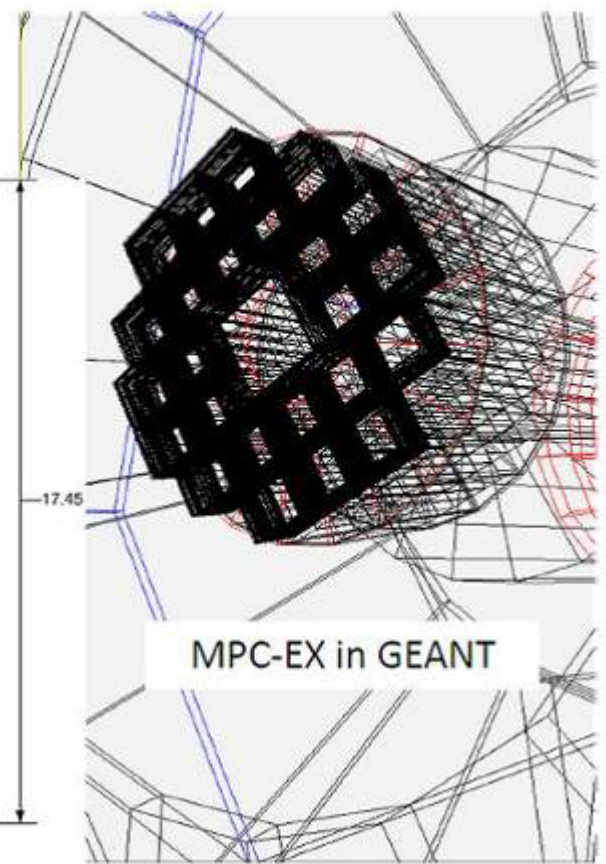
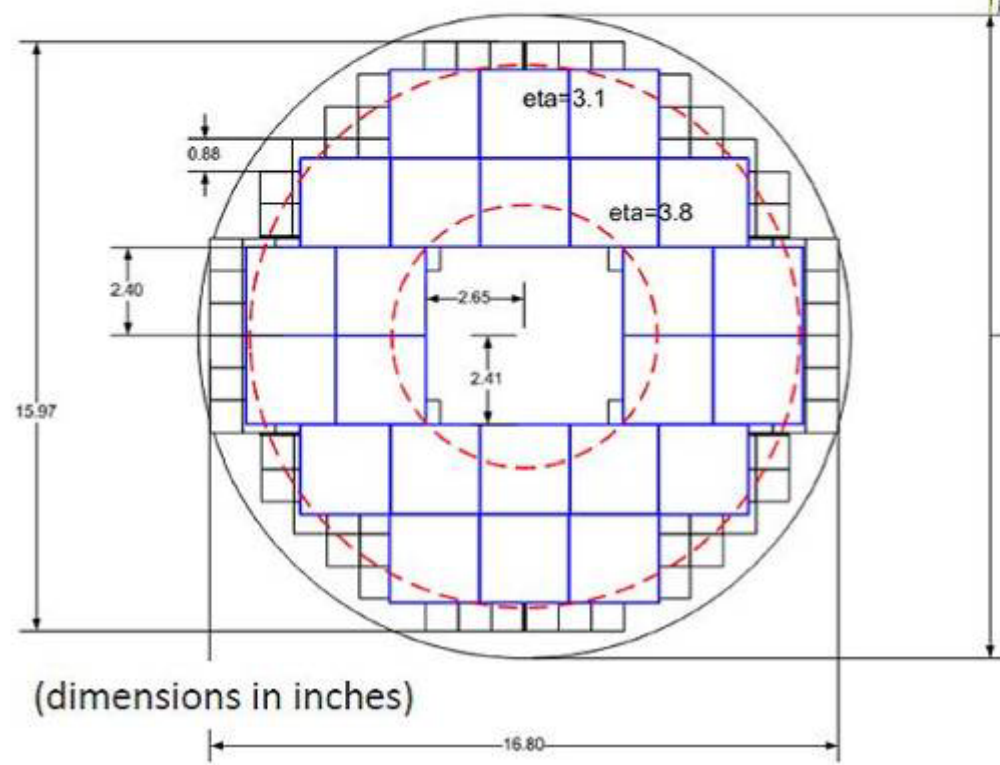
Need shed for R134A bottles close to GMH. No heating in shed (except heating blankets), lines to be insulated. Last year heating blankets kept gas warm but long length of pipe allowed gas to liquify on coldest days.



Possible location for shed 8' deep with 10' x 8' doors, and with bottom and top openings.. should satisfy ODH issues ~\$2K.

Design of the MPC-EX

Detector is designed around 6.2cm x 6.2cm modules (Si pad or strip detectors) separated by 2mm tungsten plates.



- Roof leaks in utility bathroom at northwest corner behind tech offices, over door between rack room and assembly hall, over door between control room and elect. ass'y room, southeast corner of IR and laser room.

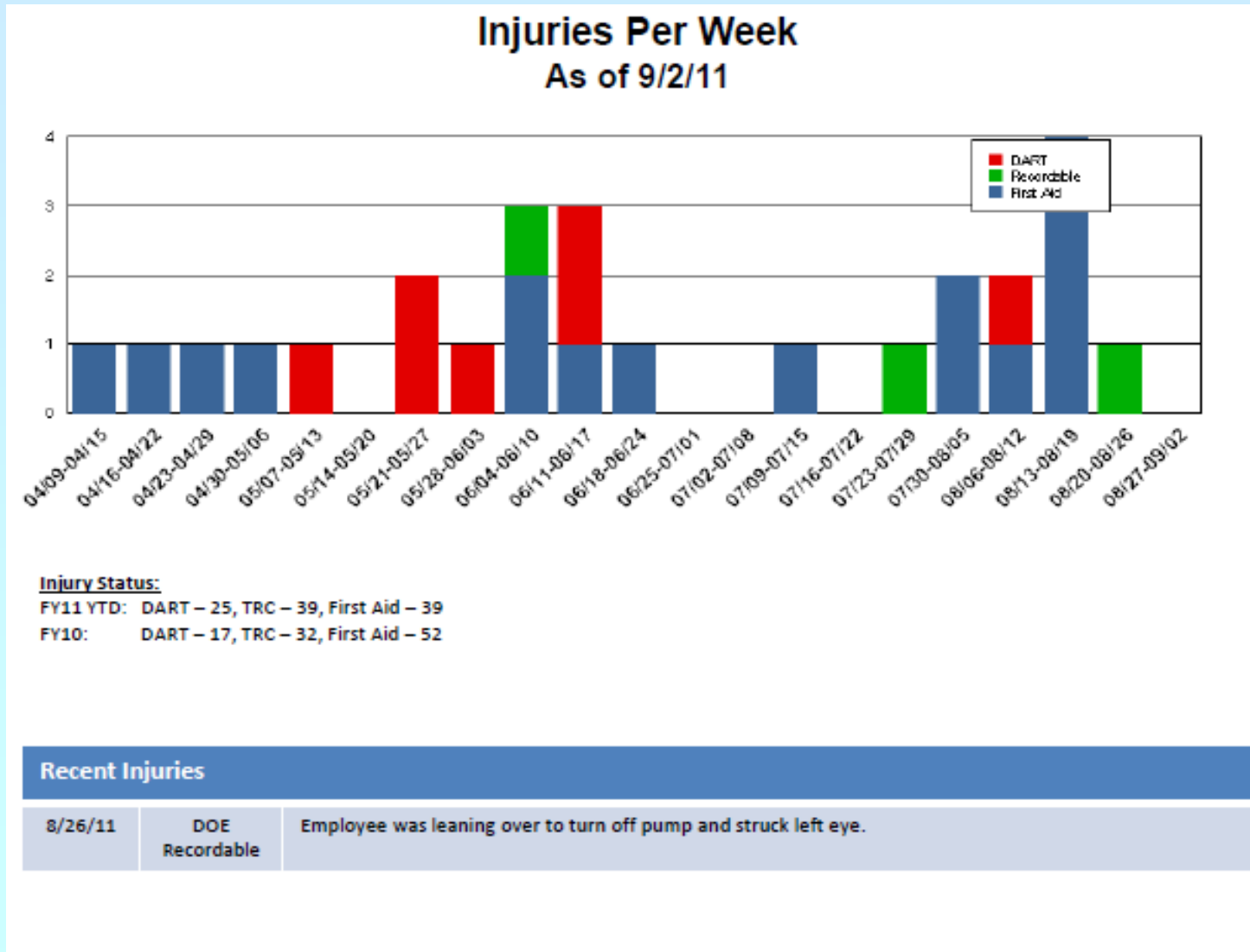


- Flooding in AH/ Driveway heaving

Nothing New



- Electronics test/assembly room-to-parking lot door (does not open/close/lock properly - needs to be replaced)
- Temperature in utility hall (where new air compressor is installed) is exceedingly high (transformer cases as high as 135 F)



Where To Find PHENIX Engineering Info

NFL Season Starts
Tonight, Jets start on
Sunday Night
J - E - T - S
Go Jets!



Links for the weekly planning meeting slides, archives of past meeting slides, long term planning, pictures, videos and other technical info can be found on the PHENIX Engineering web site:

http://www.phenix.bnl.gov/WWW/INTEGRATION/ME&Integration/DRL_SSint-page.htm